REMARKS

Applicants respectfully request reconsideration of the present application in view of the foregoing amendments and in view of the reasons that follow.

Claims 1, 4, 11 and 12 are currently being amended. Claim 2 is being canceled without prejudice or disclaimer.

This amendment changes and deletes claims in this application. A detailed listing of all claims that are, or were, in the application, irrespective of whether the claim(s) remain under examination in the application, is presented, with an appropriate defined status identifier.

After amending the claims as set forth above, claims 1 and 3-12 are now pending in this application.

Claim objection

Claim 11 was objected to. Claim 11 has been amended as suggested in the Office Action thus overcoming the objection to claim 11. Claim 11 has also been amended to correct a misspelling.

Allowable subject matter

Applicants appreciate the indication that claim 11 would be allowable if amended to overcome the objection to that claim. As discussed above, claim 11 has been amended to overcome the objection, and thus is in *prima facie* condition for allowance.

Rejections under 35 U.S.C. §§ 102 and 103

Claim 1, 2, 4, 7 and 12 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,746,989 to Murachi ("Murachi"). Claims 3, 5, 6 and 8-10 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Murachi in view of U.S. Patent Application Publication 2003/0200745 to Nieuwstadt ("Nieuwstadt"). Insofar as these rejections can be applied to the claims as amended, applicants respectfully traverse for at least the following reasons.

Independent claim 1 recites "wherein the exhaust air/fuel ratio control device includes a first system that, when the amount of the deposited particulate matter detected by the condition detecting device reaches a predetermined amount, starts to increase the temperature of the particulate filter for burning the particulate matter in the filter, and wherein the exhaust air/fuel ratio control device further includes a second system that, upon sensing a change of the exhaust air/fuel ratio from a stoichiometric or richer side to a leaner side and sensing an excess of the detected amount of the deposited particulate matter over a predetermined lower limit, varies the exhaust air/fuel ratio under the leaner air/fuel ratio exhaust condition in accordance with the detected amount of the deposited particulate matter." Neither Murachi nor Nieuwstadt discloses or suggests the combination of a first system and second system which perform the functions as recited in claim 1, nor the advantages of the combination of systems.

Murachi discloses flags ADPF and ANOX, respectively, for determining when regenerating of a DPF 7 and a NOx absorbent 9 are required, where regeneration is required when the flags are equal to 1. When regeneration of the NOx absorbent 9 is no longer required (ANOX≠1), but regeneration of the DPF is required (ADPF=1), an additional fuel injection amount TAU 21 is injected so that the air/fuel ratio is lean (col. 9, lines 12-45). When regeneration of the NOx absorbent 9 is no longer required (ANOX≠1), and regeneration of the DPF is also not required (ADPF≠1), only normal fuel injection is performed and the air/fuel ratio is lean (col. 10, lines 28-53). Thus, Murachi suggests that upon termination of a rich operation for NOx treatment when regeneration of the NOx absorbent 9 is no longer required, and a lean operation is about to start, the lean operation that is to be carried out is of one of two types: (1) a slightly lean operation when regeneration of the DPF is to be carried out, and (2) a largely lean operation when regeneration of the DPF need not be carried out.

In contrast to the control system as recited in claim 1, however, Murachi does not disclose in addition to the first system of claim 1, "a second system that, upon sensing a change of the exhaust air/fuel ratio from a stoichiometric or richer side to a leaner side and sensing an excess of the detected amount of the deposited particulate matter <u>over a predetermined lower limit</u>, varies the exhaust air/fuel ratio under the leaner air/fuel ratio

exhaust condition in accordance with the detected amount of the deposited particulate matter." Murachi merely discloses a system that controls the air/fuel ratio when the lean operation is to be carried out according to whether or not regeneration of the DPF should be carried out. In this sense, the Murachi control is similar to that of the first system of claim 1. Murachi, however, does not further suggest a second system where the exhaust air/fuel ratio is varied under the leaner air/fuel ratio exhaust condition in accordance with the detected amount of the deposited particulate matter when an excess of the detected amount of the deposited particulate matter over a predetermined lower limit is sensed.

Moreover, Murachi does not suggest the advantages of the control as recited in claim 1. The control as performed by the second system of claim 1, where the exhaust air/fuel ratio is varied under the leaner air/fuel ratio exhaust condition in accordance with the detected amount of the deposited particulate matter when an excess of the detected amount of the deposited particulate matter over a predetermined lower limit is sensed, allows for durability suppression control due to overheating to the particulate filter. (See specification on page 24 line 14 to page 25 line 16). This advantage is not suggested by Murachi.

Nieuwstadt was cited for allegedly teaching using temperature sensors to detect a temperature of a particulate filter, but fails to cure the deficiencies of Murachi.

Independent method claim 12 recites "starting to increase the temperature of the particulate filter for burning the particulate matter in the filter when the amount of the deposited particulate matter detected by the condition detecting device reaches a predetermined amount" and "varying the exhaust air/fuel ratio under the leaner air/fuel ratio exhaust condition in accordance with the detected amount of the deposited particulate matter upon sensing a change of the exhaust air/fuel ratio from a stoichiometric or richer side to a leaner side and sensing an excess of the detected amount of the deposited particulate matter over a predetermined lower limit", and thus is patentable for reasons analogous to claim 1.

The dependent claims ultimately depend from independent claim 1 and are patentable for at least the same reasons, as well as for further patentable features recited therein.

Applicants believe that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for such extension under 37 C.F.R. § 1.136 and authorizes payment of any such extensions fees to Deposit Account No. 19-0741.

Respectfully submitted,

Date October 3 2005

By

FOLEY & LARDNER LLP
Customer Number: 22428
Telephone: (202) 672-5414
Facsimile: (202) 672-5399

Richard L. Schwaab
Attorney for Applicant
Registration No. 25,479

Thomas G. Bilodeau
Attorney for Applicant
Registration No. 43,438